

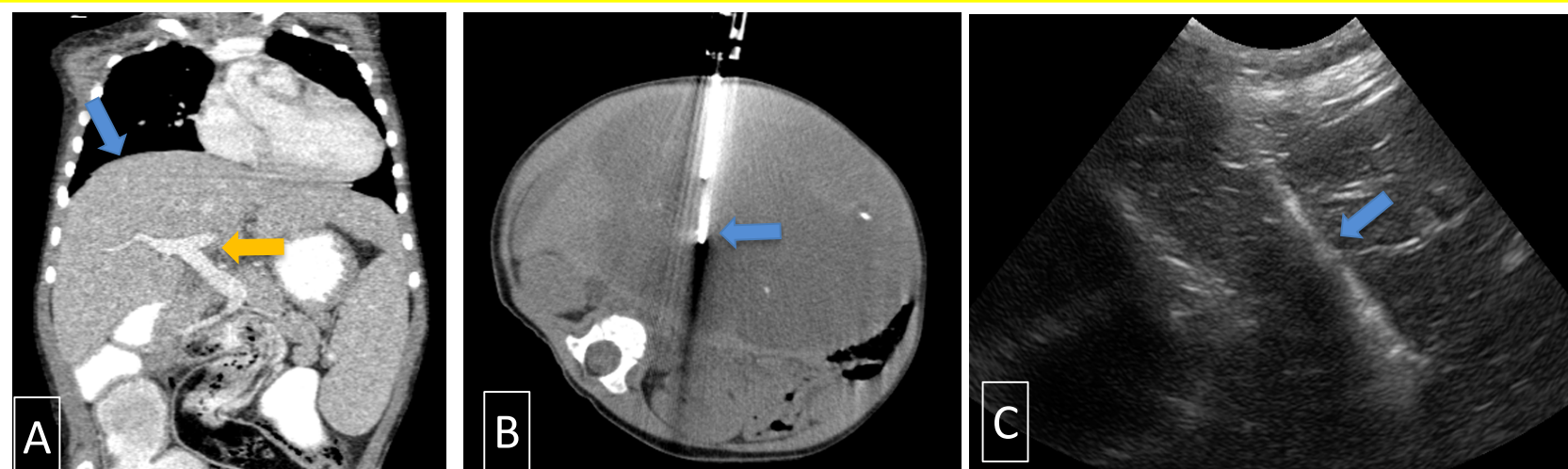
INTRODUCTION

- Percutaneous liver biopsy (Figure 1) under CT or ultrasound (US) is a frequently performed procedure in pediatrics¹⁻⁷.
- Published post-biopsy complication rates range between 0.3 - 3.3% according to Society of Interventional Radiology Standards of Practice¹.
- Biopsy tract embolization has been prophylactically used to theoretically decrease the bleeding risk, but is not the current standard of care at our institution
- The goal of this study is to determine if there is a need for prophylactic biopsy tract-embolization after US guided liver biopsy in the pediatric population

METHODS

- A retrospective chart review of imaging and clinical data previously obtained as part of routine clinical care on patients ages one-month to 17 years of age whom underwent a liver biopsies at a dedicated academic pediatric institution between January 2008 and August 2016 were included in our analysis.
- Differences in complications between patients were assessed using two-sided independent t-tests for continuous variables and Chi-square or Fisher's exact test for categorical variables, as appropriate based on cell size.

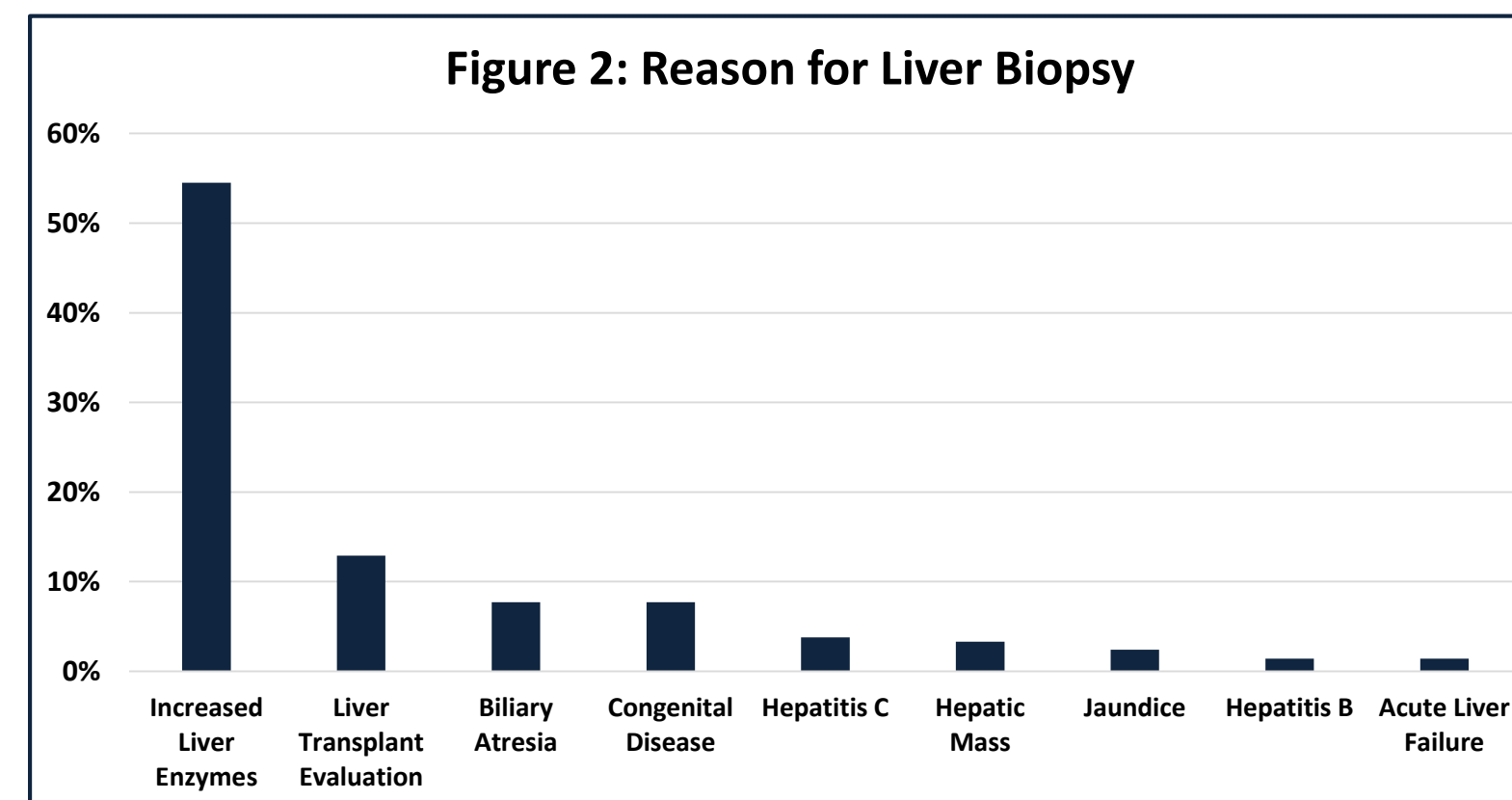
Figure 1: Percutaneous Liver Biopsy



(A) Coronal CT with contrast demonstrating a normal appearance of liver (blue arrow) and portal vein (yellow arrow). (B) CT guided percutaneous needle (blue arrow) biopsy of liver mass. Pathology confirmed as metastatic neuroblastoma. (C) US-guided percutaneous liver biopsy (blue arrow) for liver transplant surveillance.

RESULTS

- A total 512 liver biopsies performed on 209 patients were evaluated for post-procedural complications.
- The average age was 7.3 (SD ± 14.9) years and majority of patient were male (n=91, 43.5%).
- Over half of the patients received a biopsy for increased liver enzymes (n=114, 54.5%) and 75 (35.9%) of the subjects have received a liver transplant (Figure 2).



- Zero (0.0%) of our patients had a hemoglobin (Hgb) drop of greater than 2 at time of 4-hour post-biopsy lab draw (n=25).

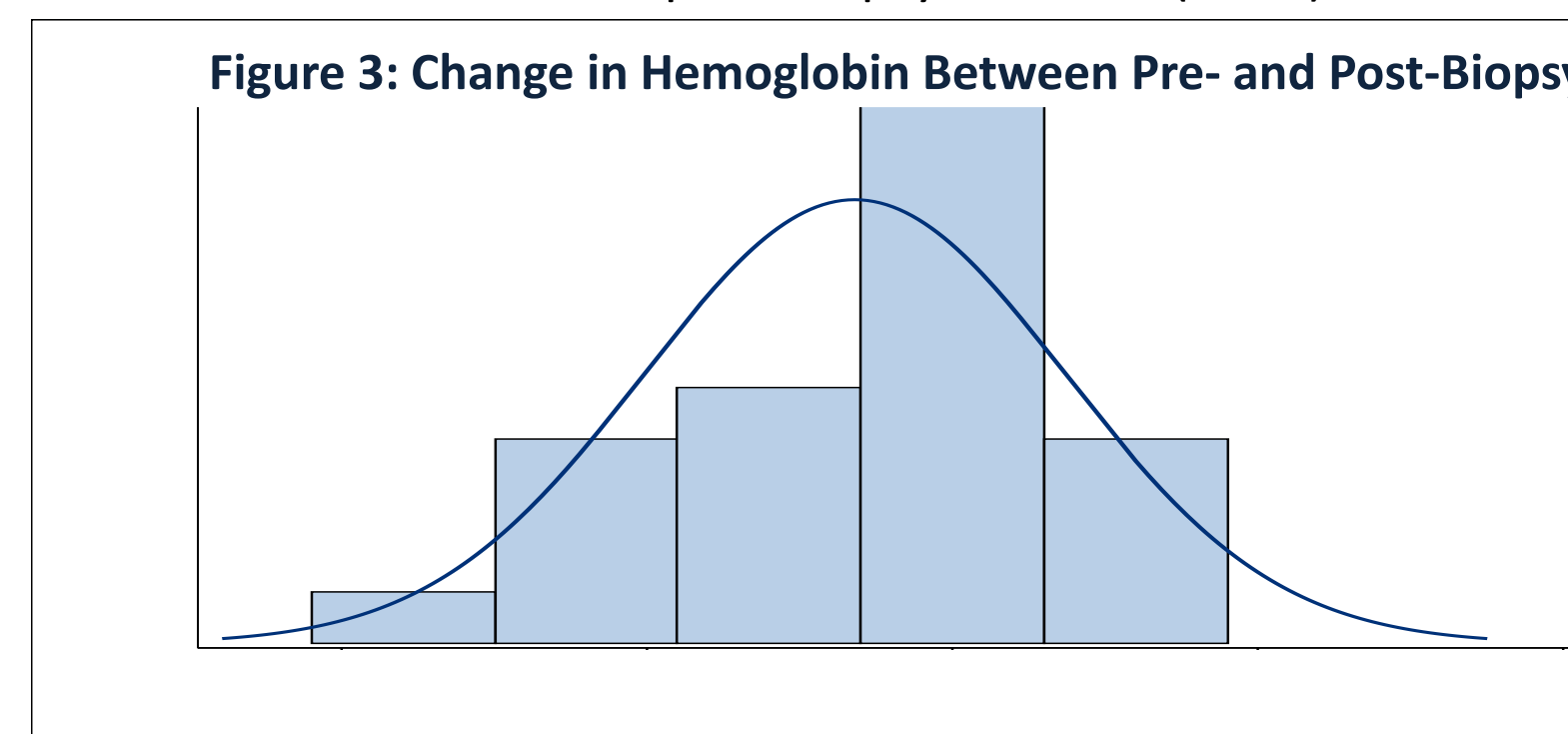


Figure 3: shows change in Hgb between pre- and post-biopsy lab values. The average pre-hgb value was 11.8 and 11 for post-biopsy. Majority (n=11, 44%) of the 25 patients whom received a post-biopsy Hgb had no change (0.0%) and five (20%) had an increase of 1.0 in Hgb between lab values.

CONCLUSION

- Ultrasound guided biopsies are safe and minimally invasive and routinely performed by pediatric interventional radiology practices.
- Our results indicate that prophylactic tract-embolization in pediatric liver biopsy patients is not necessary.

SUMMARY

- Ultrasound guided percutaneous liver biopsy is a frequently performed pediatric radiology procedure, and tract embolization has been commonly used to decrease biopsy complications at other institutions.
- Our results suggest that liver biopsy without tract embolization has a low post-procedure complication rate, and that prophylactic tract-embolization in pediatric liver biopsy patients is not necessary.

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